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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

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Applicant(s): J. HAYAKAWA, et al  
Serial No.: 09/741,804  
Filed: December 22, 2000  
For: MAGNETORESISTIVE SENSOR  
Group: 2652  
Examiner: D. Nguyen

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RESPONSE

Commissioner for Patents  
Washington, D.C. 20231

January 2, 2003

Sir:

The following remarks are respectfully submitted in connection with the above-identified application in response to the Office Action dated October 2, 2002.

The rejection of claims 1-2 under 35 U.S.C. 102(e) as being anticipated by Saito et al, U.S. patent (6,221,172); the rejection of claims 3-7 under 35 U.S.C. 103(a) as being unpatentable over Saito et al U.S. patent (6,221,172); and the rejection of claim 8 under 35 U.S.C. 103(a) as being unpatentable over Dorius et al, U.S. patent (6,069,769) in view of Saito et al, U.S. patent (6,221,172); such rejections are traversed, and reconsideration and withdrawal of the rejections are respectfully requested.

At the outset, as to the requirements to support a rejection under 35 U.S.C. 102, reference is made to the decision of In re Robertson, 49 USPQ 2d 1949 (Fed. Cir. 1999), wherein the court pointed out that anticipation under 35 U.S.C. §102 requires that each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference. As noted by the court, if the prior art reference does not expressly set forth a particular element of the

claim, that reference still may anticipate if the element is "inherent" in its disclosure. To establish inherency, the extrinsic evidence "must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill." Moreover, the court pointed out that inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.

With regard to the requirements to support a rejection under 35 U.S.C. 103, reference is made to the decision of In re Fine, 5 USPQ 2d 1596 (Fed. Cir. 1988), wherein the court pointed out that the PTO has the burden under §103 to establish a prima facie case of obviousness and can satisfy this burden only by showing some objective teaching in the prior art or that knowledge generally available to one of ordinary skill in the art would lead that individual to combine the relevant teachings of the references. As noted by the court, whether a particular combination might be "obvious to try" is not a legitimate test of patentability and obviousness cannot be established by combining the teachings of the prior art to produce the claimed invention, absent some teaching or suggestion supporting the combination. As further noted by the court, one cannot use hindsight reconstruction to pick and choose among isolated disclosures in the prior art to deprecate the claimed invention.

Furthermore, such requirements have been clarified in the recent decision of In re Lee, 61 USPQ 2d 1430 (Fed. Cir. 2002) wherein the court in reversing an obviousness rejection indicated that deficiencies of the cited references cannot be remedied with conclusions about what is "basic knowledge" or "common knowledge".

The court pointed out:

The Examiner's conclusory statements that "the demonstration mode is just a programmable feature which can be used in many different device[s] for providing automatic introduction by adding the proper programming software" and that "another motivation

would be that the automatic demonstration mode is user friendly and it functions as a tutorial" do not adequately address the issue of motivation to combine. This factual question of motivation is immaterial to patentability, and could not be resolved on subjected belief and unknown authority. It is improper, in determining whether a person of ordinary skill would have been led to this combination of references, simply to "[use] that which the inventor taught against its teacher."... Thus, the Board must not only assure that the requisite findings are made, based on evidence of record, but must also explain the reasoning by which the findings are deemed to support the agency's conclusion. (emphasis added)

Turning first to independent claim 1, such claim recites the features of a magnetic head having a magnetoresistive film comprising an anti-ferromagnetic layer, a ferromagnetic-pinned layer, a non-magnetic intermediate layer, a soft magnetic free layer and an oxide layer of metal selected from Ta, Nb, Ti, Hf, W or an alloy thereof laminated in this order on a substrate. Claims 2-7 depend directly or indirectly from independent claim 1, while independent claim 8 is directed to a magnetic recording apparatus including a magnetic head having the aforementioned features as recited in claim 1 and additional features. Applicants submit that irrespective of the Examiner's position, none of the cited art discloses in the sense of 35 U.S.C. 102 or teaches in the sense of 35 U.S.C. 103 a magnetic head as recited in claims 1 and 8 and the dependent claims thereof having "an oxide layer of metal...laminated in the order of the recited layers on a substrate". (emphasis added)

Turning to Saito et al, while the Examiner contends that apparently Saito et al teach a magnetic head referring to Figs. 1 and 2 and "an oxide layer [61] of metal selected from Ta [Ta col. 41 lines 10-11] this order on a substrate [19] (see figs 1-2 and col. 39 line 34 to col. 41 line 55)", and the Examiner also contends in relation to claim 2 that Saito et al refers to "the oxide layer [19]", irrespective of the position set forth by the Examiner, applicants submit that Saito et al does not disclose an oxide layer of metal as recited in independent claims 1 and 8, which is laminated on other layers as defined. Rather, col. 41, lines 9-11 of Saito et al, provide "Reference

numeral 19 denotes a protective layer formed of Ta or the like." (emphasis added) Applicants submit that there is no disclosure in Saito et al of the protective layer being an oxide layer of metal, such as Ta, as recited in independent claims 1 and 8 of this application. That is, while the protective layer may be formed of the metal Ta, such does not represent a disclosure or teaching of an oxide layer of metal of Ta. Applicants note that since the Examiner also apparently refers to reference numeral 61 in Saito et al, Figs. 7 and 8 of Saito et al show a layer 61 and as described in col. 55, lines 60-63, a protective layer 61 is provided which is formed of Ta, for example. Hereagain, applicants submit that there is no disclosure or teaching in Saito et al in the sense of 35 U.S.C. 102 or 35 U.S.C. 103 of an "oxide layer of metal..." as recited in independent claims 1 and 8, such that such claims and the dependent claims patentably distinguish over Saito et al in the sense of 35 U.S.C. 102 and 35 U.S.C. 103, and should be considered allowable thereover.

With respect to the dependent claims 2-7 which depend directly or indirectly from claim 1, such claims recite further features which are not disclosed or taught by Saito et al in the sense of 35 U.S.C. 102 and 35 U.S.C. 103. Moreover, the recited features, when considered in conjunction with parent claim 1, further patentably distinguish over Saito et al in the sense of 35 U.S.C. 103 and should be considered allowable thereover. Applicants note that with regard to claims 3, 5 and 7, the Examiner has recognized that Saito et al do not teach wherein the thickness of the metal oxide layer is 1.0 nm or less, but contends that it would be obvious to provide such features. As pointed out above, Saito et al does not disclose or teach an oxide layer of metal, and as recognized by the Examiner, does not disclose the thickness as recited. Applicants position concerning the forming of the thickness as desired through routine lab experimentation represents the principle of "obvious to try" which is not the standard of 35 U.S.C. 103. See In re Fine, supra and In re Lee, supra. Thus, applicants submit that the dependent claims patentably distinguish over this

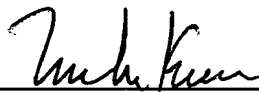
cited art in the sense of 35 U.S.C. 103 and should be considered allowable thereover.

With respect to claim 8 and the combination of Dorius et al with Saito et al, as pointed out above, Saito et al does not disclose an oxide layer of metal as recited in claim 8 and as recognized by the Examiner, Dorius et al also fails to disclose such feature, such that it is apparent that the proposed combination does not provide the claimed features of claim 8. Accordingly, applicants submit that claim 8 also patentably distinguishes over this proposed combination of references in the sense of 35 U.S.C. 103 and should be considered allowable thereover.

In view of the above remarks, applicants submit that all claims present in this application should now be in condition for allowance, and issuance of an action of a favorable nature is courteously solicited.

To the extent necessary, applicant's petition for an extension of time under 37 CFR 1.136. Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-2135 (501.39395X00) and please credit any excess fees to such deposit account.

Respectfully submitted,



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